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Two new *Strumigenys* from Ethiopia (Hymenoptera, Formicidae)

Abstract - Two new Ethiopian *Strumigenys* are described: *S. alessandrae* **n. sp.** and *S. bartolozzii* **n. sp.** The former is an unique Afrotropical *Strumigenys* without any preapical tooth on the left mandible; the latter differs through its pilosity and mandibular dentition from related taxa. The key to the Afrotropical *Strumigenys* is updated.

Key words: *Strumigenys*, new species, Ethiopia, taxonomy.

Riassunto - Due nuove *Strumigenys* dell'Etiopia (Hymenoptera, Formicidae).

Vengono descritte due nuove *Strumigenys* etiopi: *S. alessandrae* **n. sp.** e *S. bartolozzii* **n. sp.** la prima è unica tra le *Strumigenys* afrotropicali per l'assenza di denti preapicali sulla mandibola sinistra; la seconda differisce dalle specie vicine per la pelosità e la dentatura delle mandibole. La chiave per le *Strumigenys* afrotropicali viene aggiornata.

Parole chiave: *Strumigenys*, nuove specie, Etiopia, tassonomia.

Introduction

Bolton (2000) published a monumental revision on the Dacetini of the world, describing many new species from all of the zoogeographical regions. He also updated his previous revision (Bolton, 1983) of Afrotropical taxa adding 9 new species to the region and bringing the total to 50 species.

In the summer of 2002 Luca Bartolozzi and Alessandra Sforzi of the Zoological Museum of the University of Florence carried out some entomological field researches in Ethiopia, sampling soil-dwelling ants. In 2003 they sent me their material for identification. Among those specimens I found a few *Strumigenys* workers that I could not identify by means of Bolton's key (l.c.). I soon realized that those species were still undescribed and my opinion was confirmed by Bolton himself (pers. comm.).

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Depositories

BMNH: The Natural History Museum, London, UK;
MSNM: Museo Civico di Storia Naturale, Milano, Italy;
MZUF: Museo Zoologico "La Specola", Università degli Studi di Firenze, Italy.

Measurements and indices

TL, HL, HW, CI, ML, MI, SL, SI, PW, and AL are as defined by Bolton (2000).

***Strumigenys alessandrae* n. sp.** (Figs. 1-3)

Holotype worker. TL 3.6, HL 0.96, HW 0.69, CI 72, ML 0.51, MI 53, SL 0.61, SI 88, PW 0.40, AL 0.94

A relatively large and slender species.

Head (Fig. 2) dorsally with a longitudinal shallow median groove. Mandibles slightly bowed outward. Left mandible without any preapical tooth; right mandible with one preapical tooth placed just above the apicodorsal one (Figs. 2, 3), so that both mandibular shafts look unarmed in full-face view. Apical fork of the right mandible with a very minute vestigial intercalary denticle close to the base of the apicoventral tooth; left mandible with a well developed intercalary tooth (Fig. 3). Apicodorsal tooth of both mandibles larger than apicoventral one. In full face view anterior clypeal margin almost straight, occiput deeply notched in the middle. Postoral and preocular notches deeply incised, the former narrow and deep in profile and with a narrow rim. The preocular groove becomes wide and shallow ventrally; then it bends backward at a right angle and fades away while running along the median suture. Scape slender and simple. Antennal scrobe relatively well developed, its dorsal margin slightly sinuate and weakly edged.

Alitrunk humped in profile: pronotum and anterior mesonotum convex and overhanging the nearly straight posterior mesonotum and propodeum; mesonotum margined laterally. Propodeal teeth small; their ventral edges run downward as a narrow lamella along each side of the propodeal declivity.

Petiole with a long peduncle, ventrally a very thin longitudinal crest runs along the entire length of the petiolar sternite. Node simply domed in profile. Petiolar spongiform appendage forming a thin collar around the posterior face of the node. Postpetiole wider than long and about twice as wide as the petiole. Postpetiolar spongiform appendage more developed posteriorly, especially below where it forms two longitudinal crests.

Gaster basally with an anterior tergal spongiform crest fitting the postpetiolar one.

Sculpture. Head, alitrunk, petiole and postpetiole mostly matt and finely reticulate-punctate all over; mesopleuron smooth in the middle; mandibles and postoral groove smooth. First tergite and sternite basally sculptured, longitudinally finely costulate for about 2/5 of tergal and 1/3 of sternal lengths.

Pilosity. Anterior clypeal margin fringed with moderately long, curved, simple to slightly clavate hairs; head dorsum covered with regularly arranged, anteriorly bent and somewhat appressed, narrowly spoon-shaped hairs. Cephalic dorsum devoid of any erect hair. Leading edge of the scape bearing a series of simple hairs

curved toward the apex of the segment. Pronotum with a pair of long, standing, slightly clavate humeral hairs; anterior mesonotum with a pair of slightly shorter, clavate ones; dorsum of the alitrunk with sparse, appressed, coarse pubescence especially on the pronotum. Petiole with a pair of clavate hairs on the back of the node; postpetiole with 3 pairs of clavate hairs: one pair short, decumbent, anteromedial ones and two pairs close to the articulation with the gaster, the mid pair longer. Gastral tergites with regularly arranged, scattered, long, somewhat subdecumbent, clavate hairs; sternites and gastral apex with several decumbent to subdecumbent simple hairs. Pubescence quite long and abundant on the appendages only.

Colour testaceous.

Paratypes (2 workers). TL 3.6, HL 0.96-0.98, HW 0.69, CI 70-72, ML 0.50, MI 51-52, SL 0.60-0.61, SI 87-88, PW 0.39-0.40, AL 0.90-0.92.

Closely matching the description of the holotype, even for the presence of the minute intercalary denticle on the right mandibular fork.

Holotype (worker): ETHIOPIA, Ilubador Region, Buno Bedele: nr. Bedele, (approx. 8°27' N – 36°21' E), 2000 m ca., 29/31.VII.2002 A. Sforzi & L. Bartolozzi *legit*, sifting leaf litter of secondary forest (MZUF).

Paratypes: 2 workers with the same data as the holotype (MSNM; BMNH).

Derivatio nominis. This species is dedicated to Alessandra Sforzi (MZUF), one of the collector of this new ant.

Comment. An easily recognisable species for its unarmed left mandibular shaft and the presence of an intercalary tooth on the left mandibular fork. It is quite different from any other Afrotropical *Strumigenys* known to date and may constitute a species-group of its own.

Strumigenys alessandrae-group contains *Strumigenys alessandrae* n. sp. only and may be defined from the following combination of characters:

1) Apical fork of the left mandible with an intercalary tooth, right mandible with just a vestigial intercalary denticle. Preapical teeth absent from the left mandible; the right mandible has one preapical tooth close to the insertion of the apicodorsal one.
2) Scape slender and simple. SI 87-88.
3) Upper scrobe margin weakly developed.
4) Postoral and preocular notches deeply incised; the latter runs ventrally, bends backward at a right angle and fades away along the median suture.
5) Spongiform appendages relatively well developed on postpetiole; but reduced to a collar on the posterior face of the petiolar node. First gastral sternite devoid of any spongiform structure.
6) Apicoscrobal hair absent. Cephalic dorsum with appressed, narrowly spoon-shaped hairs only. Pronotal humeral hair present, clavate. Mesonotum with a single pair of clavate hairs. Petiole, postpetiole and gaster with standing clavate hairs.

7) Head, alitrunk, petiole and postpetiole mostly finely reticulate-punctate; mesopleuron smooth in the middle. Gaster smooth except for basal costulae.

***Strumigenys bartolozzii* n. sp.** (Figs. 4-6)

Holotype (worker). TL 2.4, HL 0.59, HW 0.43, CI 73, ML 0.28, MI 47, SL 0.35, SI 81, PW 0.30, AL 0.62

A species belonging in the *rogeri*-group (see Bolton, 2000).

Head relatively robust; mandibles slightly bowed outward. Left mandible with 1 long and spiniform preapical tooth; right mandible with 2 preapical teeth: the proximal one similar to that of the left mandible, the distal one much smaller (Fig. 5). Apical fork of the right mandible with apicodorsal and apicoventral tooth close to one another; left mandible with one intercalary minute denticle (Fig. 6). This denticle is shifted outward from the concavity between the apical teeth; so it is well visible looking at the fork in a slightly diagonal view. Apicodorsal tooth of both mandibles distinctly longer than the apicoventral one. In full face view anterior clypeal margin straight; occiput widely notched and with protruding occipital carina in the middle. Frontal carinae strongly sinuate. Postoral and preocular grooves deep and narrow. Scape slightly and gradually thickened from the basal fourth. Scrobe shallow; its dorsal and especially ventral edges poorly developed.

Alitrunk in profile humped: the pronotum and anterior mesonotum convex and overhanging the surface formed by the straight posterior mesonotum and the weakly convex propodeal dorsum. Propodeal spines strong; their ventral edges run downward as a lamella along each side of the propodeal declivity.

Petiole with a short peduncle; node a low dome. Petiolar spongiform appendage forming a collar around the posterior face of the node; a posterior spongiform process is present on the petiolar sternite. Postpetiole wider than long and about twice as wide as the petiole. Postpetiolar spongiform appendage large, especially laterally and below; a thin fringe runs along the tergal-sternal suture.

Gaster basally with an anteriorly protruding tergal spongiform crest fitting the postpetiolar one.

Sculpture. Head, alitrunk, petiole and postpetiole mostly matt, finely reticulate-punctate. Pronotum with superimposed rugulae: on the pronotal disc they are irregular, short and tend to converge anteriorly; laterally the rugulae are more regularly arranged and mostly parallel (Fig. 1). Mandibles smooth; mesopleuron, metapleuron and side of the propodeum widely smooth in the middle. Postpetiole weakly sculptured above, somewhat shining and very superficially longitudinally striolate. Gaster smooth except the first tergite, which is longitudinally costulate about on its basal 1/4.

Pilosity. Anterior clypeal margin, head dorsum and leading edge of the scape bearing curved, narrowly spoon-shaped hairs. Those on the scape are arranged as follows: 2-3 proximal directed toward the apex of the scape; 3-2 around midlength directed toward the base, the remaining apicalmost hairs directed toward the apex. Hairs on the head dorsum are strongly bent forward and distinctly raised from the surface; the frons posteriorly bears a pair of widely separate, standing, slightly clavate hairs that shortly arise in profile above the surrounding spoon-shaped ones. Pronotum with a pair of long, flagellate humeral hairs plus a pair of long remiform

hairs on the anterior margin; a pair of similar hairs on the margins of the descending mesonotum and a pair of slightly shorter hairs occur at the promesonotal suture. A sparse decumbent coarse pubescence occurs on the promesonotum. Petiolar node with two pairs of slightly clavate hairs, the posteriormost pair distinctly longer. Postpetiole with 3 pairs of clavate hairs: one pair anteromedial and short and 2 pairs close to the articulation with the gaster, the mid pair longer. Gastral tergites with regularly arranged, scattered, long, standing clavate hairs; sternites and gastral apex with several decumbent to subdecumbent simple hairs. Pubescence quite long and abundant on the appendages only and somewhat raised on the extensor surfaces of femurs and tibiae.

Colour testaceous.

Type locality: ETHIOPIA, Ilubador Region, Buno Bedele: nr. Bedele, (approx. 8°27' N – 36°21' E), 2000 m ca., 29/31.VII.2002 A. Sforzi & L. Bartolozzi *legit,* sifting leaf litter of secondary forest (MZUF).

Derivatio nominis. This species is dedicated to Luca Bartolozzi, curator of MZUF and collector of this new ant.

Comment. From its mandibular dentition and scape pilosity this new species might look close to *S. londianensis* (Patrizi); yet it is very different from the latter in its much smaller size, alitrunk pilosity (with a pair of hairs between the humeral pair and an additional pair close to the promesonotal suture), its distinctly toothed propodeum and lower MI. The mandibular dentition and pilosity combined make this ant different from any other Afrotropical *Strumigenys*.

Update of the key to the Afrotropical *Strumigenys*

Couplets 2 to 5 of Bolton's key (2000: 583) to Afrotropical *Strumigenys* should be modified as follows in order to include both new species (original couplets' numbers are in brackets; couplets 2 and 5 are rewritten):

2 Left mandible without preapical teeth.....***S. alessandrae* n. sp.**
- Left mandible with 1-2 preapical teeth .....3 [2]

3 [2] Left mandible with 1 preapical tooth.....4 [3]
- Left mandible with 2 preapical teeth.....8 [6]

4 [3] Leading edge of scape with 2-4 hairs that are curved toward the base **5**
- Leading edge of scape with all hairs curved or inclined toward the apex of the scape.....6 [4]

5 Size larger (TL 3.5-4.2). Pronotal humeral hair straight, stiff and stout, remiform to feebly clavate. Propodeum unarmed.....*S. londianensis*
- Size smaller (TL 2.4). Pronotal humeral hair fine and flagellate. Propodeum distinctly toothed .....***S. bartolozzii* n. sp.**

Fig. 1 - *Strumigenys alessandrae* n. sp., holotype (olotipo).

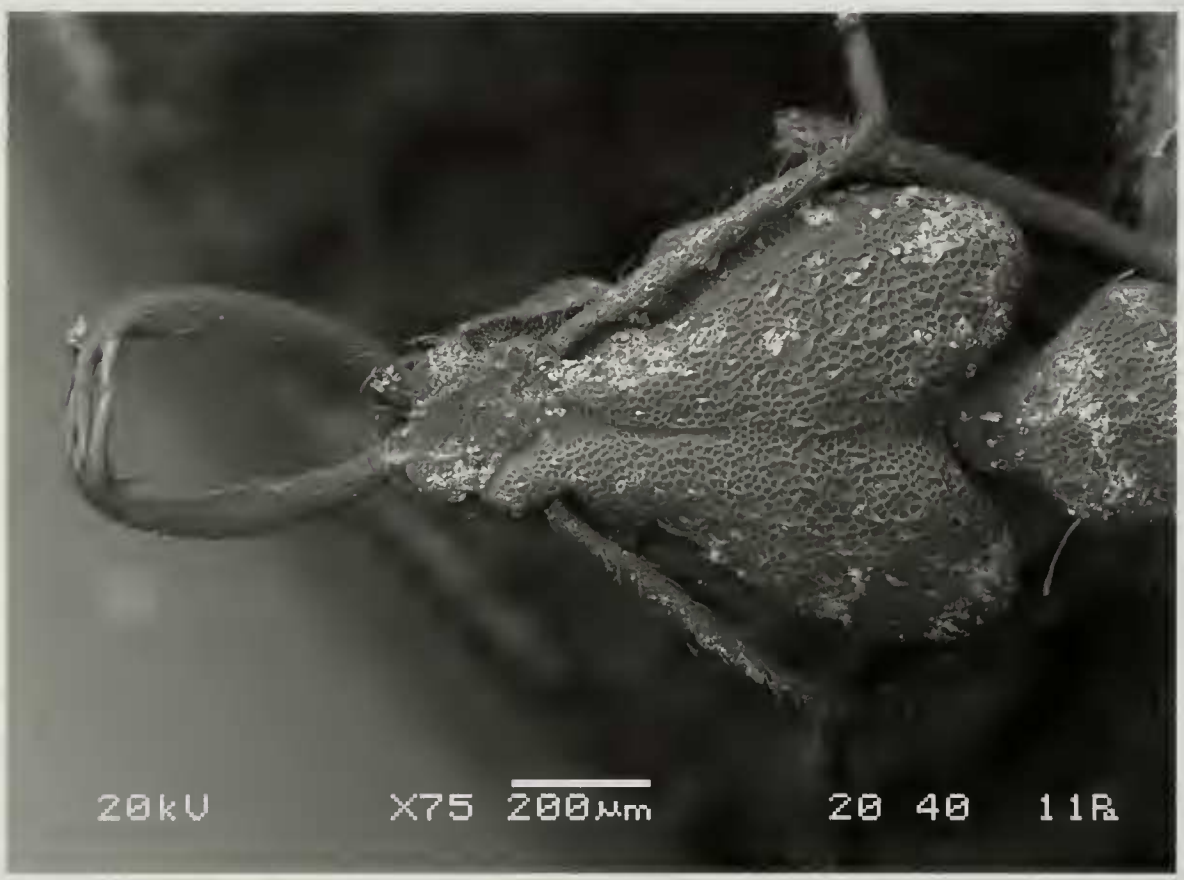

Fig. 2 - *Strumigenys alessandrae* n. sp., head (capo).

Fig. 3 - *Strumigenys alessandrae* n. sp., mandibular forks (apici delle mandibole).

Fig. 4 - *Strumigenys bartolozzii* n. sp., holotype (olotipo).

Fig. 5 - *Strumigenys bartolozzii* n. sp., head (capo).

Fig. 6 - *Strumigenys bartolozzii* n. sp., left mandibular fork (apice della mandibola sinistra).

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